

## **Case Study 1: API Collections Automation**

Client Information: A large enterprise client working with microservices architecture, dealing with numerous API endpoints

Challenges Facing:

1. Managing a vast number of API endpoints across multiple microservices
2. Time-consuming process for testers and developers to create and maintain API collections
3. Inefficient environment configuration and test data creation
4. Limited validity of self-service cloud instances, requiring frequent recreations

Moolya's Solution Approach:

1. Created comprehensive Postman collections of all API endpoints
2. Developed simple sanity checks for each endpoint
3. Enhanced collections to automate test data creation and environment configurations
4. Implemented automation scripts for deploying new instances, extending validity, and backing up/restoring existing instances

Outcome:

1. Streamlined process for deploying instances, configuring environments, and managing test data
2. Improved efficiency for testers and developers in setting up and testing environments
3. Enabled business analysts to quickly prepare environments for client demos
4. Reduced time and effort required for instance management by 60%
5. Improved overall team productivity without relying on complex frameworks

## **Case Study 2: Data Comparison Automation for Wordly**

Client Information: Wordly, a web-based language learning platform requiring extensive data comparison capabilities.

Challenges Facing:

1. Need to compare data displayed on the user interface with downloaded data sets
2. Existing methods were inefficient, involving multiple lines of code and increased execution time
3. Difficulty in identifying and understanding data mismatches

Moolya's Solution Approach:

1. Explored alternative solutions beyond traditional testing frameworks
2. Implemented Python's Pandas library for efficient data handling and comparison

3. Created a generic method for data comparison that could be reused across the project

Outcome:

1. Reduced code lines for data comparison by 70%
2. Minimized test execution time by 50%
3. Improved ability to identify and understand data mismatches, increasing accuracy by 90%
4. Created a reusable solution applicable to multiple tests across the project
5. Demonstrated innovative problem-solving by leveraging data science libraries in test automation

### **Case Study 3: Metrics Automation for a leading music streaming company**

Client Information: A leading audio streaming service provider testing multiple Android applications.

Challenges Facing:

1. Need to capture and tabulate 14+ metrics for 2400+ iterations across six scenarios
2. Testing required across 7 Android versions, four network types, and seven audio streaming apps
3. Time-consuming manual process for data collection and analysis
4. Existing AppTim reports were insufficient for the client's needs

Moolya's Solution Approach:

1. Developed a Python script to automate metrics capture and tabulation
2. Implemented a Jenkins job to run the script every 15 minutes
3. Created a system where testers only needed to paste relevant URLs after executing an iteration
4. Automated the extraction of metrics from various sources (JSON, TSV, HTML reports)

Outcome:

1. Reduced manual data entry time by 80%
2. Allowed testers to focus on scenario design, execution, and result analysis
3. Improved the efficiency of the testing process, increasing test coverage by 40%
4. Enabled more comprehensive and timely analysis of performance metrics
5. Accelerated the identification of performance issues by 60%

### **Case Study 4: Data Validation Automation for Clinical Trials for a Large Enterprise customer**

Client Information: ClinicalTrial Pro, an enterprise customer in the clinical trials industry, requiring extensive data validation across multiple databases.

#### Challenges Facing:

1. Need for data validation from DB0 to DB1 to DB2 and to DB7 warehouse and DB2-API
2. Consideration of expensive commercial tools for the validation process
3. Complex data transfer validation requirements across diverse database systems

#### Moolya's Solution Approach:

1. Proposed an alternative solution using open-source tools instead of costly commercial options
2. Utilized Robot Framework as the base for the automation solution
3. Developed custom libraries in Python to automate specific data validation tasks
4. Created a comprehensive solution within a few weeks

#### Outcome:

1. Successfully implemented a cost-effective data validation solution, saving the client 70% on tool costs
2. Eliminated the need for expensive commercial tools
3. Reduced data validation time by 60%
4. Provided a long-term, sustainable solution (in use for three years and counting)
5. Improved data integrity and compliance with regulatory requirements

#### **Case Study 5: Enterprise-wide Test Automation Blocker**

Client Information: GlobalFinance Corp, a multinational financial services company with a complex, multi-tiered application ecosystem.

#### Challenges Facing:

1. Existing test automation suite lacked scalability and maintainability
2. High rate of false positives and false negatives in automated test results
3. Diminished confidence in automation, leading to increased manual testing efforts
4. Leaked bugs to production due to unreliable automation
5. Accumulated technical debt in the testing infrastructure

#### Moolya's Solution Approach:

1. Conducted a comprehensive assessment of the existing automation framework and infrastructure
2. Developed a roadmap for improving testability and automation readiness
3. Implemented a hybrid approach combining human testing with strategic automation
4. Rebuilt the automation framework focusing on scalability and maintainability
5. Introduced better error handling and reporting mechanisms to reduce false positives/negatives

Outcome:

1. Improved automation reliability, reducing false positives/negatives by 80%
2. Increased test coverage by 50% through strategic automation and human testing combination
3. Reduced time spent on maintaining automation scripts by 60%
4. Decreased production bugs by 70% due to improved testing efficacy
5. Restored stakeholder confidence in the automation process
6. Established a sustainable, long-term automation strategy aligned with the company's growth

### **Case Study 6: Automated Book Testing for Flipkart**

Client Information: Flipkart, one of India's leading e-commerce platforms, specifically focusing on their ebook service.

Challenges Facing:

1. Some purchased ebooks were failing to open after purchase on the production platform
2. Manual testing of all newly uploaded books was time-consuming and inefficient
3. Need to identify the pattern of failures to resolve the underlying issue
4. Risk of customer dissatisfaction due to non-functioning purchased ebooks

Moolya's Solution Approach:

1. Developed a quick and focused automation script to test newly uploaded ebooks
2. Created a process to: a. Automatically purchase all new books uploaded daily b. Download each purchased book c. Attempt to open each book d. Check for any opening failures
3. Designed the script to be lightweight and purpose-specific, avoiding unnecessary framework complexity
4. Implemented a system to run the script regularly for a few weeks to gather data

Outcome:

1. Rapidly identified books that failed to open after purchase, preventing customer issues
2. Collected comprehensive data on book opening failures over several weeks
3. Enabled the engineering team to narrow down the pattern of failures
4. Facilitated the identification and resolution of the root cause of the book opening issue
5. Improved overall quality of the ebook service, enhancing customer satisfaction
6. Demonstrated the effectiveness of purpose-built, "quick and dirty" automation for specific testing needs
7. Successfully retired the script after the core issue was resolved, showcasing Moolya's pragmatic approach to automation

This case study highlights Moolya's ability to quickly develop and implement targeted automation solutions to address specific, urgent issues. It demonstrates their philosophy of using automation not just for long-term test suites, but also as a flexible tool to solve immediate problems and gather crucial data. The approach taken with Flipkart showcases Moolya's agility in responding to client needs and their focus on practical, results-oriented solutions rather than over-engineered frameworks.